Applicants also express appreciation for the return of the initialed Form PTO-1449, whereby the Examiner's consideration of Applicants' disclosure statement filed September 14, 2001 is of record.

Moreover, Applicants are submitting on even date herewith a Supplemental Information Disclosure Statement. The Examiner is respectfully requested to consider the information cited in this supplemental disclosure statement, and to confirm such consideration by initialing the Form PTO-1449 submitted therewith, and forwarding an initialed copy of the form with the next communication from the Patent and Trademark Office.

Response To Rejection Under 35 U.S.C. 112, Second Paragraph

In response to the rejection of claims 8-32 under 35 U.S.C. 112, second paragraph, as being indefinite, Applicants respectfully submit the following.

In this ground of rejection, the Examiner asserts that the term "high-temperature technology" in claim 8 is a relative term that renders the claim indefinite. The Examiner further asserts that the remainder of the claim does not breathe any life to the limitation "high-temperature" in the preamble as it relates to a nickel alloy. In contrast to the assertions by the Examiner in the indefiniteness rejection, the remainder of the claim does breathe life into the preamble of the claim in view of the fact that the nickel alloy recited provides the recited characteristics. For example and without limitation, advantages achieved according to the present invention are based on the fact that, at temperatures of up to 1200°C, intercrystalline creeping in the material is largely prevented due to stable deposits in the intercrystalline regions

and an increased mix crystal hardening is achieved. In any event, in order to advance prosecution of the application to allowance, the high temperature language has been deleted from claim 8.

Accordingly, the 35 U.S.C. 112, second paragraph, rejection should be withdrawn based upon the above-noted amendment to claim 8, which amendment should not be considered to be a narrowing amendment, and should not be considered as creating estoppel.

Response To Rejections Based Upon Prior Art

The following rejections are set forth in the Office Action:

(A) Claims 8-20, 23, 27, 28 and 30 are rejected under 35 U.S.C. § 102(b) as being anticipated by KUDO et al. (hereinafter "KUDO"), JP 57-210941;

(B) Claims 8-12, 15, 16, 20 and 21 are rejected under 35 U.S.C. § 102(b) as being anticipated by KATO, JP 56-084445;

(C) Claims 8-20, 23, 27, 28 and 30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KUDO, JP 57-210941;

(D) Claims 8-13, 15, 16, 20 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KATO, JP 56-084445; and

(E) Claims 21, 22, 24-26, 29, 31 and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over KUDO, JP 57-210941, and further in view of SMITH et al. (hereinafter "SMITH"), U.S. Patent No. 6,287,398.

Initially, Applicants note that the abstracts of KUDO and KATO included with the Office Action are not easily readable. Therefore, Applicants have obtained copies of English language

abstracts of KUDO and KATO, and are submitted them with the present response in order that these abstracts will be of record in the instant application. As can be seen from a review of these abstracts, these abstracts are more easily reviewable with respect to the amounts by weight of the components in the alloys.

With regard to the merits of the rejection, Applicants note that KUDO and KATO broadly disclose a number of ranges that broadly include ranges as recited in Applicants' claims. However, the examples disclosed in these documents do not include all the elements of Applicants' claims in the amounts recited in Applicants' claims. A review of KUDO and KATO reveals that Applicants' invention is not anticipated nor rendered obvious by these documents, because the subject matter claimed in the present application is not disclosed with sufficient specificity therein as the creep-proof and corrosion-resistant nickel-based alloy of the present invention cannot be "at once envisaged" from the disclosures of either KUDO or KATO. In this regard, the Examiner's attention is directed to MPEP 2131.03 wherein it is noted that anticipation in a situation such as in the present case wherein ranges are disclosed is found when the prior art discloses at least one example that is within the claimed range. In the instant situation, the rejection merely points to ranges and does not establish wherein the creep-proof and corrosion-resistant nickel-based alloy of the present invention is disclosed with sufficient specificity in either KUDO or KATO so as to constitute an anticipation.

With respect to the above, the Examiner's attention is directed to tables presented in KUDO, at 57-210941(6) labeled page 210, and KATO, at 56-84445(3) labeled page 243, which do not appear to include examples within Applicants' invention. Still further, lack of

anticipation is further emphasized by the fact that claim 8 is included in obviousness rejections based upon each of KUDO and KATO.

The anticipation rejections also make a reference to inherency; however, the Examiner is reminded that in order for inherency to be present the Examiner has the burden of showing that the result indicated by the Examiner is the necessary result, and not merely a possible result. In re Oelrich, 212 U.S.P.Q. 323 (CCPA 1981); Ex parte Keith et al., 154 U.S.P.Q. 320 (POBA 1966). The fact that a prior art product may inherently have the characteristics of the claimed product is not sufficient. Ex parte Skinner, 2 U.S.P.Q.2d 1788 (BPAI 1986).

As the Board of Patent Appeals and Interferences states in Ex parte Levy, 17 U.S.P.Q.2d 1461, 1463:

> However, the initial burden of establishing a prima facie basis to deny patentability to a claimed invention rests upon the examiner. In re Piasecki, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986); W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); In re Wilding, 535 F.2d 631, 190 USPQ 59 (CCPA 1976); Hansgirg v. Kemmer, 102 F.2d 212, 40 USPQ 665 (CCPA 1939).in order for inherency to be present it must be a necessary result, and not merely a possible results. Ex parte Keith and Turnquest, 154 U.S.P.Q. 320 (B.O.A. 1966).

Therefore, if the anticipation rejections are maintained, it is respectfully requested that the rejections point out where the creep-proof and corrosion-resistant nickel-based alloy of the present invention is disclosed with sufficient specificity in either KUDO or KATO so as to constitute an anticipation.

Moreover, attention is directed to MPEP 2144.05 wherein criteria for regarding optimization of ranges is presented. In the instant situation, Applicants' claimed invention provides a creep-proof and corrosion-resistant nickel-based alloy. In this regard, the Examiner's attention is directed, for example, to paragraph [0014] of Applicants' substitute specification wherein it is disclosed that the advantages achieved according to the invention are essentially based on the fact that, at temperatures of up to 1200 °C, intercrystalline creeping in the material is largely prevented due to stable deposits in the intercrystalline regions and an increased mixed crystal hardening is achieved. Additionally, it is disclosed that the adhesion of chromium spinel and such layers to the surface is increased, causing an improved high-temperature corrosion resistance of the components. Still further, the Examiner's attention is directed, for example, to Applicants' examples, such as illustrated in Tables 2 and 3. These tables clearly show that a deviation from a combination of alloy elements according to the invention in the given concentration ranges results in a deterioration of the mechanical properties of the alloys.

As can be seen, the instantly claimed invention is not rendered obvious over either KUDO, KATO and/or SMITH. In particular, it is noted that to establish a *prima facie* case of obviousness wherein ranges are claimed, the rejection must establish motivation for arriving at the ranges claimed by Applicants. Moreover, the rejection must establish that the particular variables being modified are result effective variables. See In re Antonie, 195 USPQ 6 (CCPA 1977). In the instant situation, there is no teaching or suggestion in the prior art to arrive at the creep-proof and corrosion-resistant nickel-based alloy recited in Applicants' claims.

The case law cited in the rejection is noted, but does not address this issue. In Woodruff, the issue was that only one variable was slightly different, and that the intended purpose pertained to a new benefit for an old process. Wertheim appears to confirm that disclosure of an example within the claimed range is an anticipation. As discussed above, it does not appear that any of KUDO, KATO and/or SMITH teach or suggest the Applicants claimed creep-proof and corrosion-resistant nickel-based alloy.

The obviousness rejections merely make reference to deficiencies in the primary references, but do not indicate how the alloys of the prior art are being modified and/or the motivation for making any modification. In this regard, KUDO is directed to an alloy for high strength oil well pipe with superior stress corrosion cracking resistance by adding certain components in specified ratios; KATO is directed to an inexpensive heat-resistant alloy which is excellent in corrosion resistance and strength at high temperatures wherein a part of Ni of an NI-based alloy is replaced with Mn and appropriate amounts of elements capable of increasing strength at high temperatures and C and N producible with the dissolution of the air; and SMITH is directed to high strength alloy tailored for high temperature mixed-oxidant environments.

For example, it is noted with respect to claim 31 that this claim relates to a nickel-based alloy according to claim 8 with manganese (Mn) up to 0.60% by weight, and boron (B) up to 0.01 % by weight. In contrast, a boron-free alloy is apparently disclosed in KUDO, and KATO relates to nickel-based alloys featuring 5-15% by weight manganese. It would not have been obvious to arrive at a nickel-based alloy according to claim 8 with the manganese and boron contents listed in claim 31 to achieve an improved creeping strength.

Moreover, SMITH discloses a nickel alloy which, at least for its disclosure of an iron content of at least 18% by weight, an aluminum content of at least 3% by weight and a nitrogen content of no more than 0.1% by weight, is far from the alloy composition according to the invention. Furthermore, such an alloy features only chromium carbide deposits, i.e., no nitride deposits. Boron is used in such an alloy to improve the hot forming property and as a deoxidant. Applicants respectfully submit that it cannot be concluded from this that a significantly improved creeping strength or a stabilization results, as indicated according to the present invention, with the general teaching of KUDO with respect to boron as an alloying element.

Still further, from the above, Applicants respectfully submit that a prima facie case of obviousness cannot be established based upon the prior art utilized in the rejections. However, even if a prima facie case of obviousness could be established in this case, the instantly claimed invention yields unexpected results sufficient to rebut a prima facie case of obviousness. In this regard, In re Soni, 34 U.S.P.Q.2d 1684, 1687-1688 (Fed. Cir. 1995), held that a showing of substantially improved results for the invention, and a statement that results were unexpected suffices to establish unexpected results absent evidence to the contrary. Id. at 1687-88. In the instant case, the superior characteristics of the claimed invention are disclosed throughout the specification, and indicated in the Examples.

Accordingly, the rejection of record should be withdrawn as improper, and all of the claims should be indicated as allowable over the prior art.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejection of record, and allow all the pending claims.

Allowance of the application is requested, with an early mailing of the Notices of Allowance and Allowability.

If the Examiner has any questions or wish to further discuss this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,
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APPENDIX
MARKED_UP COPY OF AMENDED CLAIM 8

8. (Amended) Creep-proof and corrosion-resistant nickel-based alloy [for the use in high-temperature technology] comprising, in wt-%:

0.0015 to 0.60 carbon (C);

0.20 to 0.90 nitrogen (N);

22.0 to 32.0 chromium (Cr);

5.0 to 20.0 elements of the groups 4, 5, and 6 of the periodic table, except Cr;

0.03 to 3.0 aluminum (Al);

0.4 to 3.0 silicon (Si);

maximum of 0.014 phosphorus (P);

maximum of 0.004 sulfur (S);

minimum of 51 of nickel (Ni) or a combination of nickel (Ni) and cobalt (Co); and

melting-related contaminants.